

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Sub (1)
1. (currently amended) A method for determining the position of a medical instrument (3) introduced into an object (1) to be examined and for imaging the vicinity of the medical instrument (3), ~~wherein~~ comprising the steps of

determining the position of the medical instrument (3) within the object (1) to be examined ~~is determined~~ by means of a localization device (5) that is arranged at the end zone of the medical instrument (3) that is to be introduced into the object during use of the medical instrument,

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acquiring image information of the vicinity of the medical instrument ~~(3) being~~ acquired, at the same time as said step of determining, using ~~by means of~~ an image acquisition device (4) arranged on the medical instrument (3),

reproducing the position of the medical instrument (3) ~~being reproduced~~ in a survey image (15) of the object (1) to be examined on the basis of the position determined, and

displaying images of the vicinity of the object (1) to be examined which are associated each time with the relevant position ~~being displayed~~ on the basis of the image information acquired.

2. (currently amended) A The method as claimed in claim 1, ~~characterized in that~~ wherein the localization device comprises at least one magnetic field sensor ~~is used as the~~ ~~localization device (5)~~ whose position is determined by ~~means of~~ an external measuring device.

3. (currently amended) A The method as claimed in claim 1, ~~characterized in that~~
wherein the localization device comprises at least one active or passive microcoil ~~is used as the~~
~~localization device (5)~~ whose position is determined by ~~means of~~ a magnetic resonance device.

4. (currently amended) A The method as claimed in claim 1, ~~characterized in that~~
wherein the localization device comprises an ultrasound sensor ~~is used as the localization~~
~~device (5)~~.

5. (currently amended) A The method as claimed in claim 1, ~~characterized in that~~
wherein the medical instrument (3) consists at least partly of a material that can be detected by
~~means of~~ one of an ultrasound device or a magnetic resonance device.

6. A The method as claimed in claim 1, ~~characterized in that~~ wherein the image
acquisition device is an ultrasound device, ~~notably an intravascular ultrasound device,~~ is used
~~as the image acquisition device (4)~~.

7. (currently amended) A The method as claimed in claim 1, ~~characterized in that~~
wherein the image acquisition device comprises an optical coherence tomography device is
~~used as the image acquisition device (4)~~.

8. (currently amended) A The method as claimed in claim 1, ~~characterized in that~~
wherein the image acquisition device comprises an MR device, ~~notably an intravascular MR~~
~~device, is used as the image acquisition device (4)~~.

9. (currently amended) A The method as claimed in claim 1, ~~characterized in that~~
wherein the image acquisition device comprises an endoscope is used as the image acquisition
~~device (4).~~

10. (currently amended) A device for determining the position of a medical
instrument (3) introduced into an object (1) to be examined and for imaging the vicinity of the
medical instrument (3), which device includes:

localization means (7) for determining ~~the~~ a position of ~~the~~ a medical instrument
(3) within the object (1) to be examined,

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a localization device (5) being ~~arranged in the~~ arrangeable in an end zone of the
medical instrument that is to be introduced, the end zone being a part of the medical instrument
that is introduced into the object during use of the medical instrument.

imaging means (6) for the acquisition at the same time of image information
concerning the vicinity of the medical instrument (3),

an image acquisition device (4) ~~being arranged~~ arrangeable on the medical
instrument (3), and

data processing and display means (12, 14) for determining ~~and displaying~~ the
position of the ~~medical instrument (3)~~ localization device and displaying the position of the
medical instrument in a survey image (15) of the object (1) to be examined based on the
determined position of the localization device, that is, on the basis of the position thus
~~determined~~, and for determining, ~~and displaying~~ images of the vicinity of the object (1) to be

examined, wherein said images are being associated with the relevant position, on the basis of
based on the image information acquired.

11. (currently amended) A medical instrument (3) to be introduced into an object to be examined (1), including a localization device (5) which is arranged in ~~the~~ an end zone of the
medical instrument that is to be introduced so as to determine the position of the medical instrument (3) within the object (1) to be examined, the end zone of the medical instrument being introduced into the object during use of the medical instrument, and an image acquisition device (4) for acquiring at the same time image information concerning the vicinity of the medical instrument (3) wherein, the position of the localization device determined ~~being~~ is used to determine ~~and display~~ the position of the medical instrument (3) in a ~~survey image (15) of~~ the object (1) to be examined, and the image information acquired ~~being~~ is used to form and display images of the vicinity ~~associated with the relevant position~~ of the object (1) to be examined.

12. (currently amended) A The medical instrument as claimed in Claim 11, ~~characterized in that~~ wherein the medical instrument (3) is a flexible ~~instrument, notably a~~ catheter.

13 (currently amended) A computer readable medium storing a computer program ~~which includes program sections for executing the method as claimed in claim 1~~ during execution of the computer program by a computer.

14. (currently amended) A computer readable medium storing a computer program
~~which includes program sections~~ for controlling a device as claimed in claim 10 during
execution of the computer program by a computer.

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15. (currently amended) A computer readable medium storing a computer program
~~which includes program sections~~ for controlling a medical instrument as claimed in claim 11
during execution of the computer program by a ~~computer~~ computer.